

***Response Under 37 CFR § 1.116 * -- Expedited Procedure -- Examining Group 1731
Docket No. 1759.140
U.S. Serial No.: 10/690,768***

REMARKS

Without acquiescing to the propriety of the rejections in the Office Action dated November 10, 2005, claims 1-9 have been amended. Reconsideration of the above-identified patent application and allowance of all claims are respectfully requested in view of the remarks below and the accompanying Request for Continued Examination. Claims 1-9 are now pending.

Claim Rejections Under 35 U.S.C. § 112:

Claim 9 stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Office Action objects to the recitation of two tapes which avoid contact with each other because it is alleged that the specification is completely silent regarding this feature. Applicant respectfully points to page 5, lines 27-34 which describe two tapes, each having plies of yarn and thermoplastic films disposed thereon such that the yarns are separated from one another by the thermoplastic films when the tapes are superposed. Direct contact between the yarns and avoidance of abrasion is therefore provided. Thus, the specification describes two tapes having corresponding plies with thermoplastic films therebetween. Thus, support is provided for the first and second plies avoiding contact with each other recited in claim 9. This rejection is therefore believed to be overcome.

Claim Rejections Under 35 U.S.C. § 102 and § 103:

Claims 1-3 and 6-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative obvious under § 103(a) over U.S. Patent No. 6,228,312 to Boyce.

Amended claim 1 of the present application recites a reinforcing tape system which includes a reinforcing tape having a ply of longitudinal aramid-, glass-, or carbon-based high-tenacity yarns bound together by weft yarns. The tape includes two thermal plastic films, each placed on a respective different side of the ply of high-tenacity yarns. The tape is flexible and wound around an outside surface of a structure to be reinforced. The tape conforms to a shape of the outside surface of the structure to be reinforced. The ply of yarns reinforces the structure in response to being wound around the structure.

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Boyce discloses a liner for rehabilitating a pipe which is introduced into the pipe in a contracted form and expanded into contact with the wall of the pipe. However, there is no disclosure in this reference of a flexible reinforcing tape being wound around, and conforming to a shape of, an outside surface of a structure to be reinforced, nor a ply of yarns reinforcing the structure in response to tape being wound around it. Instead, Boyce discloses a liner which is expanded to reinforce an inner side of a pipe, but there is no disclosure of tape which is wound around a structure to be reinforced. Accordingly, because all the features (e.g., a reinforcing tape being wound around an outside surface of a structure to be reinforced, the tape conforming to a shape of the outside surface and a ply of yarn reinforcing the structure in response to the tape being wound around the structure) of claim 1 of the present application are not identically disclosed by Boyce, this claim cannot be anticipated thereby.

Further, there would be no reason for one skilled in the art to arrive at the present invention based on the disclosure in Boyce. The reinforcing tapes disclosed in the present application are utilized by winding them around various structures to reinforce them which is directly opposed to the use in Boyce of inserting a liner inside a structure and inflating it to reinforce the internal surface thereof. Accordingly, there would be no reason for one skilled in the art to attempt to utilize the liner of Boyce in the manner of the tape in the present application since the objectives of the liner and tape are directly opposed (i.e., reinforcing an internal surface by internal pressure versus reinforcing an exterior surface by winding a tape around the exterior surface). Thus, there would be no reason to utilize the liner in Boyce on an outer surface of a structure to be reinforced as recited in claim 1 of the present application. Claim 1 therefore cannot be anticipated, nor made obvious, by Boyce. The dependent claims are believed not to be anticipated, nor made obvious, for the same reasons and for their own additional features.

Claims 1-2 and 5-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative obvious over, Dana (International Publication No. WO 02/22354).

Dana discloses a resin compatible fabric which may be inserted into a laminate comprising a matrix for the purpose of producing printed circuit boards. A fabric is disclosed as being impregnated by a matrix to form a rigid material. However, there is no disclosure of high-tenacity yarns with thermoplastic films being placed on respective different sides of a ply of

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high-tenacity yarns to form a reinforcing tape as recited in claim 1 of the present application. Further, there is no disclosure of a flexible reinforcing tape which is wound around, and conforms to an outside surface of, a structure to be reinforced, nor a ply of yarns reinforcing the structure in response to the tape to being wound therearound. Instead, Dana merely discloses a fabric which is impregnated by a matrix to make the fabric rigid, but it does not disclose a flexible reinforcing tape. Further, the high-tenacity yarns recited in claim 1 and described in the specification possess a certain degree of freedom and flexibility to allow the yarns a freedom of movement within two thermoplastic films in contrast to the rigidity of the impregnated fabric disclosed in Dana. Thus, because Dana does not even disclose a flexible reinforcing tape, it could not be obvious to arrive at the flexible reinforcing tape wound around a structure to be reinforced recited in claim 1 based on the disclosure in Dana. Accordingly, this reference cannot anticipate, nor make obvious, the subject matter of claim 1 or the dependent claims.

Claim Rejections Under 35 U.S.C. § 103:

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being obvious over Boyce in view of Lusk (U.S. Patent No. 4,578,293). This claim is believed to be allowable for the same reasons as those described above for its base independent claim and for its own additional features.

Claims 1 and 3 stand rejected under 35 U.S.C. § 103(a) as being obvious over Gilbert (U.S. Patent No. 4,781,958) in view of Bompard et al. (U.S. Patent No. 5,014,755).

Gilbert discloses a tape utilized to allow one to detect underground non-metallic objects such as plastic pipe. In particular, the tape is placed on the non-metallic body thereby allowing it to be detected by a metal detector. The tape includes a ductile metal foil layer enclosed in a sheath of thermoplastic coating. Further, the tape does not have a tendency to curl up the edges or twist, and it lies flat as described in lines 57-60 of column 2.

Bompard discloses a composite textile structure which includes a textile layer having filaments impregnated and/or coated with thermoplastic material which allows laminates exhibiting improved mechanical properties to be produced as described in lines 50-55 of column 1. The thermoplastic material is secured to the different threads of the weave disclosed

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therein to increase rigidity of the article which includes the textile. The textile is especially designed for the manufacture of laminates as described in lines 55-60 of column 3.

As noted above, claim 1 recites, inter alia, a flexible tape which is wound around, and conforms to a shape of, a structure to be reinforced, along with a ply of yarns reinforcing the structure in response to the tape being wound therearound. The tape disclosed in Gilbert is placed adjacent non-metallic structures to allow detection of such structures, but there is no disclosure of a tape being wound around a structure to reinforce the structure. Gilbert thus does not disclose a flexible tape which is wound around, and conforms to the shape of, a structure to be reinforced, nor yarns configured to reinforce a structure which the tape is wound around. Further, Bompard discloses a textile suitable for being laminated which is designed to increase rigidity of an article. Bompard thus teaches away from the flexible tape recited in claim 1. Accordingly, a combination of these references cannot result in the subject matter of claim 1 of the present invention since neither reference, nor their combination, discloses a flexible reinforcing tape wound around, and conforming to the shape of, a structure to be reinforced. Accordingly, claim 1 cannot be obvious over these references. The dependent claims are not believed to be obvious for the same reasons and for their own additional features.

Claims 2 and 6-7 stand rejected under 35 U.S.C. § 103(a) as being obvious over Gilbert in view of Bompard and further in view of Park (U.S. Patent No. 5,547,536). Also, claim 4 stands rejected under 35 U.S.C. § 103(a) as being obvious over Gilbert in view of Bompard and further in view of Osborn et al. (U.S. Patent No. 3,830,067). These claims are believed to be allowable for the same reasons as their base independent claims and for their own additional features.

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CONCLUSION

It is believed that the application is in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, the Examiner is invited to telephone the undersigned attorney at the telephone number provided.

Respectfully submitted,



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